OKC-2348
Copy 5 of 5

27 December 1961

MEMORANDUM FOR THE RECORD

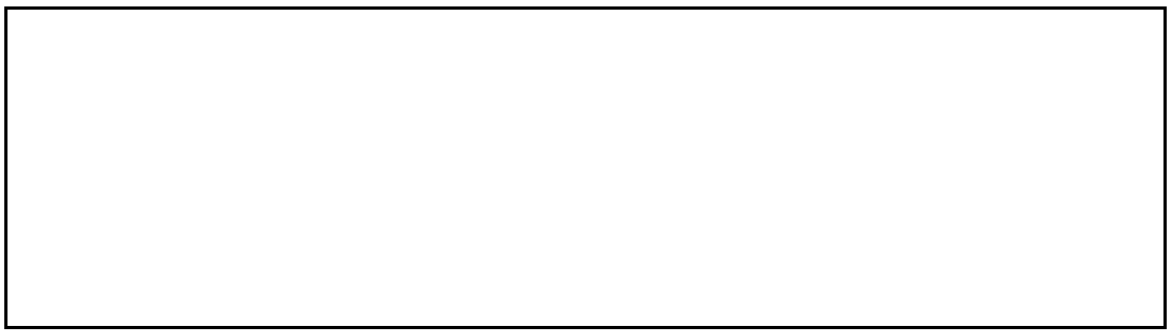
SUBJECT: Runway Barrier [redacted] 25X1A

1. Reference paragraph 3 of OKCART memorandum 2034, dated 21 December 1961, Status Report by [redacted] 25X1A

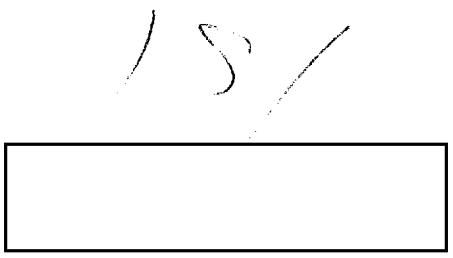
2. Barriers consist of two distinct components: energy absorbers and engaging devices. The engaging device connects the aircraft to the energy absorber so that the arrestment can be accomplished. In general, any engaging device can be used with any energy absorber. To clarify [redacted] comment, LAC objects to the use of a dynamically supported engaging device rather than the BAK-9, which is only an energy absorber. He and LAC consider that a cable supported by arms which flip up and hold the cable statically will provide a more reliable engagement. In all the present non-tail hook engaging devices used by the Air Force, the cable is thrown up to engage the main gear and if it fails to engage, falls back to the ground. All Air Force fighters are being equipped with the tail-hook device, which by engaging a pendant cable statically supported at 6" height, has proved to be highly reliable in the range 0-160 knots. The reasons why a statically supported pop-up cable has not been developed by the Air Force for non-tail hook aircraft is unknown. 25X1A

3. Objections to the use of a BAK-9 energy absorber should not be based on the engaging device attached thereto. This absorber has proven to be the best of several absorbers tested at the flight test center and is considered quite superior to the chain type absorber in practical applications. The chain absorbers are limited by low energy capacity, long recycle time and varying load during arrestment. Structural limits of the aircraft may also be exceeded if the amount of chain is increased to provide higher energy absorption. Although the chain absorber is in wide use, it is being replaced with more advanced systems as rapidly as funds permit.

25X1A



5. The most reliable presently known system for stopping the OKCART vehicle with least damage would be by use of a tail hook, pendant cable and BAK-9 combination, with the engaging device at the end of the runway, about 12-13,000 feet from the point where take-off roll begins. The tail hook eliminates the yawing and rolling moments generated by asymmetric engagement of the main gear by a cable. If it can be shown that a tail hook installation is not possible, then a system whereby the main gear is engaged by a cable, together with the BAK-9 absorber, at the same location, would be the second most appropriate method. The runway length quoted is that considered by me to be the most suitable for operational requirements of the OKCART vehicle based on the latest predictable fully loaded performance capability.



25X1A

DB/DPD:RLM:jba
Distribution:
Cy 1-C/DB/DPD
2-AC/DPD
3-GPB/DPD
4-DB/DPD
5-RI/DPD